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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,212	11/25/2003	Robert W. Turner	BO1 - 0184US	5522
60483 7590 12/28/2006 LEE & HAYES, PLLC 421 W. RIVERSIDE AVE. SUITE 500 SPOKANE, WA 99201			EXAMINER SMITH, JEFFREY S	
			ART UNIT 2635	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		NOTIFICATION DATE	DELIVERY MODE	
3 MONTHS		12/28/2006	ELECTRONIC	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 12/28/2006.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

lhpto@leehayes.com

Office Action Summary

Application No.

10/721,212

Applicant(s)

TURNER ET AL.

Examiner

Jeffrey S. Smith

Art Unit

2635

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

A new corrected drawing of Figure 7 in compliance with 37 CFR 1.121(d) is required in this application because Figure 7 is illegible.

Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Objections

Claims 4 and 12 are objected to because of the following informalities:

In claim 4, line 8 "the selected location" lacks antecedent basis.

In claim 12, line 2 "a plurality of landmark" should be "a plurality of landmarks."

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,097,835 issued to Lindgren ("Lindgren").

For claims 1 and 9, Lindgren discloses spatially matching images produced by different sensors (see column 6 lines 2-3 describing spatially overlapping multispectral and panchromatic images) and spectrally correcting one or more of the spatially matched images based on one or more of the other images (see column 2 lines 25-29). For claim 9, the means for spatially matching and means for spectrally correcting are defined by the specification as computer software that is executed by a processing system, which is disclosed by Lindgren.

For claims 2 and 10, Lindgren discloses equalizing the resolution levels in the images and the means for equalizing the resolution levels (see column 2 lines 29-31).

Claims 17, 20-21, 25 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,995,681 issued to Lee et al. ("Lee").

For claim 17, Lee discloses a system for aligning a plurality of satellite images 12 from different sources (such as airborne or spaceborne camera or radar systems, diagrammatically illustrated at 10 and 11, respectively in Figure 1), user interface device 24, a display device 25, a database for storing landmark information (the workstation 24 stores reference images 29 in its memory), a processor coupled to the user interface device, the display device, and the database, the processor including a first component for instructing the display device to present one of the satellite images based on the stored landmark information, a second component for setting control points in the

Art Unit: 2635

satellite images based on a signal generated by the user interface, and a third component for aligning the images based on the set control points (see column 1 line 52-column 2 line 10 which discusses a skilled operator at an image processing workstation 24 examine the display 25 of the working digital image 16 to locate ground control points 27. The ground control points are obtained from stored landmark information such as a survey of the area of interest. By clicking on a cursor 31 that has been manually positioned over a control point in the working image, the operator supplies an offset which is compared with the actual coordinates of the ground control point in the reference image 29).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 11, 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindgren in view of Lee.

For claim 3, Lindgren discloses the elements of base claims 1 and 2.

Lindgren does not explicitly disclose setting a plurality of control points in the images based on landmark information and aligning the images based on the set control points.

Lee discloses setting a plurality of control points in the images based on landmark information and aligning the images based on the set control points as shown in Figure 1.

It would have been obvious to one of ordinary skill in this art at the time of this invention to align the panchromatic and multispectral images of Lindgren using the control points obtained from a survey or reference image of the geographical area of interest in order to co-register the images as taught by Lee in columns 1-2 and figure 1.

For claim 11, Lindgren discloses the elements of base claims 9 and 10. Lee discloses means for setting a plurality of control points in the images based on landmark information, means for aligning the images based on the set control points, and means for aligning images based on latitude and longitude as discussed in column 1 lines 48-50 and shown in Figure 1. It would have been obvious to one of ordinary skill in this art at the time of this invention to align the panchromatic and multispectral images of Lindgren using the latitude, longitude, or control points obtained from a survey or reference image of the geographical area of interest in order to co-register the images as taught by Lee in columns 1-2 and figure 1.

For claim 30, Lindgren discloses spatially matching images produced by different sensors (see column 6 lines 2-3 describing spatially overlapping multispectral and panchromatic images) and spectrally correcting one or more of the spatially matched images based on one or more of the other images (see column 2 lines 25-29). Lee discloses setting a plurality of control points in the images based on landmark information and aligning the images based on the set control points as discussed in

Art Unit: 2635

columns 1 and 2 and shown in Figure 1. It would have been obvious to one of ordinary skill in this art at the time of this invention to align the panchromatic and multispectral images of Lindgren using the control points obtained from a survey or reference image of the geographical area of interest in order to co-register the images as taught by Lee in columns 1-2 and figure 1.

For claim 31, Lindgren extracts radiometrically stable data, aggregates the data from a first image, compares the aggregated data to radiometric data from a second image, generates a correction factor, and applies the correction factor to the radiometric data of the second image as shown in figures 1 and 2.

Claims 4-8, 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindgren in view of Lee as applied to claims 3 and 11 above, and further in view of U.S. Patent No. 5,864,632 issued to Ogawa et al. ("Ogawa").

For claim 4, Lindgren and Lee disclose the elements of base claim 3.

Lindgren and Lee do not explicitly disclose determining locations of a plurality of landmarks, presenting a selected landmark, setting a control point approximately adjacent to the selected landmark, and repeating until a threshold number of control points are set.

Ogawa in step 202 of figure 2, figure 7 and column 6 lines 32-38 shows determining locations of a plurality of landmarks, presenting a selected landmark, setting a control point approximately adjacent to the selected landmark, and repeating until a threshold number of control points are set.

It would have been obvious to one of ordinary skill in this art at the time of invention to set control points in the images of Lindgren and Lee adjacent to selected landmarks as shown by Ogawa for the purpose of aligning multiple images of the same geographic location as taught by Ogawa at column 5 lines 33-36.

For claim 12, Lindgren and Lee disclose the elements of base claim 11. Ogawa in step 202 of figure 2, figure 7 and column 6 lines 32-38 shows means for determining locations of a plurality of landmarks, means for presenting a selected landmark, means for setting a control point approximately adjacent to the selected landmark, and means for repeating until a threshold number of control points are set. It would have been obvious to one of ordinary skill in this art at the time of invention to set control points in the images of Lindgren and Lee adjacent to selected landmarks as shown by Ogawa for the purpose of aligning multiple images of the same geographic location as taught by Ogawa at column 5 lines 33-36.

For claims 5-6, 13-14, Ogawa in figure 7 shows the landmarks include a building and a field. Given the fact that the neither the claims nor the specification establishes a critical distinction between a building and a school building, or a field and a football field, one of ordinary skill in the art would obviously recognize that the building of Ogawa can be a school building and the field can be a football field.

For claims 7-8, 15-16, Lindgren discloses setting the multispectral resolutions to an equalized resolution in the abstract and figure 4.

Art Unit: 2635

Claims 18-19, 22, 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Ogawa.

For claim 18, Lee discloses the elements of base claim 17.

Lee does not disclose the landmark includes school information.

Ogawa in figure 7 discloses the landmark includes a building, which can be a school.

It would have been obvious to one of ordinary skill in this art at the time of invention to set the control points of Lee using school building information for the purpose of aligning the multiple images of the same geographic location as taught by Ogawa at column 5 lines 33-36.

For claims 19, 26 Ogawa discloses that the building information includes location information.

For claim 22, 27 Ogawa discloses that the visual feature includes a field, which obviously can be a football field.

Claims 23-24, 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Lindgren.

For claim 23, Lee discloses the elements of base claim 17.

Lee does not disclose setting multispectral bands to equalized resolution levels.

Lindgren discloses setting multispectral bands to equalized resolution levels as shown in Figure 4.

It would have been obvious to one of ordinary skill in this art at the time of the invention to equalize the resolution levels of the images as shown by Lindgren when setting control points during the co-registration process of Lee for the purpose of reducing misregistration of the images as taught by Lindgren in the abstract.

For claim 28, Lee discloses the elements of base claim 25. Lindgren discloses setting multispectral bands to equalized resolution levels as shown in Figure 4. It would have been obvious to one of ordinary skill in this art at the time of the invention to equalize the resolution levels of the images as shown by Lindgren when setting control points during the co-registration process of Lee for the purpose of reducing misregistration of the images as taught by Lindgren in the abstract.

For claims 24, 29, setting the resolution level to a highest level is shown by Lindgren in Figure 4.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6,477,270 issued to Wu, U.S. Patent No. 5,682,034 issued to Schueler, U.S. Patent No. 6,011,875 issued to Laben et al., and U.S. Patent No. 5,124,915 issued to Krenzel disclose methods of modifying a spectral feature of a satellite image of a location using another satellite image of the location.

U.S. Patent No. 6,987,877 issued to Paz-Pujalt et al., U.S. Patent No. 5,550,937 issued to Bell et al., U.S. Patent No. 5,422,989 issued to Bell et al., and U.S. Patent No.

Art Unit: 2635

5,652,717 issued to Miller et al. disclose methods of creating control points for combining satellite images of the same location.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey S. Smith whose telephone number is 571 270-1235. The examiner can normally be reached on M-F.

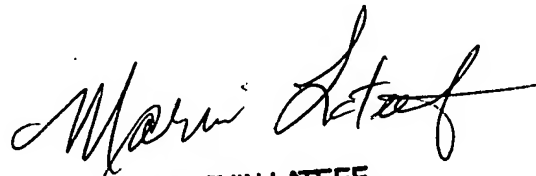
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marvin Lateef can be reached on 571 270-1245. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JSS

JSS

December 19, 2006



MARVIN LATEEF
SUPERVISORY PATENT EXAMINER